REMARKS

The present application includes claims 1-25, which were rejected. The Applicants respectfully submit that the pending claims define allowable subject matter.

Claims 1, 8-9, 11, 12, and 19-21 stand rejected under 35 U.S.C. 102(b) as being anticipated by the textbook entitled "PACS Basic Principles and Applications" by Huang ("Huang"). Claims 2-7, 10, 13-18, and 22-25 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Huang in view of United States Patent No. 6,231,246 ("Takeo"). In addition to the reasons previously set forth during prosecution of the present application, the Applicants respectfully traverse the aforementioned rejections for the reasons set forth below.

The Applicants first turn to the rejection of claims 1, 8-9, 11-12, and 19-21 over Huang. Huang teaches a system in which "an acquisition gateway computer can be placed between the imaging modality(s) and the rest of the PACS network to isolate the radiologic imaging modality host computer from the PACS." Huang at 177. The PACS "consists of image and data acquisition, PACS controller and archive, and display subsystems integrated by digital networks." *Id.* "The PACS controller is the engine of the PACS consisting of high end computers or servers; its two major components are a database server and an archive system." *Id.* at 178. The operations of the PACS controller are listed on Table 7.1 of Huang at page 179.

Huang, at Table 7.2 on page 180, lists the major functions of a PACS workstation. Table 7.2, however, does not list selecting preprocessing functions or applying preprocessing functions at the workstation. Huang does not teach, nor suggest, "selecting

from a PACS database, using a PACS display workstation, a first preprocessing function for the raw image data delivered from the image modality," nor does it teach or suggest "processing said raw image data at the PACS display workstation by applying the first preprocessing function to the raw image data to create resultant image data," as recited, for example, in claim 1 of the present application.

Image preprocessing, as described in Huang, is neither selected or applied at the workstations. For example, at page 219, Huang states, "the acquisition gateway computer *must* perform certain image preprocessing functions *before* images are sent to the PACS controller or workstations" (emphasis added). Further, "[t]here are two categories of preprocessing functions. The first is related to the image format... [which is] described in 7.6. The second type of preprocessing prepares the image for an optimal viewing at the display workstation." *Id.* at 219. The Applicants note that Huang does not teach, nor suggest, that either of the two types of preprocessing functions are performed at the workstations. On the contrary, Huang clearly states that these functions are performed before images are sent to the workstations. The acquisition gateway computer, but not the workstations, performs these preprocessing functions.

The Examiner astutely points out that "Huang teaches that the lookup tables containing the preprocessing functions can be inserted to the image header and sent to the PACS workstation, and 'applied at the time of display to enhance the different types of tissue.'" The Applicants note, however, that the generation of the lookup tables *is* the preprocessing function. Huang states, "The fourth preprocessing function for CR images is the generation of a lookup table. Huang does not teach, nor suggest, that these lookup

tables are selected, created, or generated at the workstation. That is, Huang does not teach, nor suggest, "selecting from a PACS database, using the PACS display workstation, a first preprocessing function[, such as generating a lookup table] for the raw image data delivered from the imaging modality," as recited, for example, in claim 1 of the present application.

Further, while Huang does state that the lookup tables "can be easily built in and inserted into the image header and applied at the time of display," Huang does not teach, nor suggest, that the lookup tables are applied *at* the display. Rather, Huang only discloses that the lookup tables may be applied at the *time* of display. As discussed above, the preprocessing functions described in Huang are neither selected by, or applied at, a PACS workstation. *See, e.g.,* Huang at page 219. That is, Huang does not teach, nor suggest, "selecting from a PACS database, using the PACS display workstation, a first preprocessing function for the raw image data delivered from the imaging modality," or "processing said raw image data at the PACS display workstation by applying the first preprocessing function to the raw image data to create resultant image data," as recited, for example, in claim 1. Thus, the Applicants respectfully submit that Huang does not render claims 1, 11, and 21 (or the claims that depend from these claims) unpatentable.

The Examiner noted that "the preprocessing functions are applied at the workstation because the workstation displays the image, see section 7.1.3 on pages 179-180." However, there is nothing in section 7.1.3 that teaches or suggests that preprocessing functions are applied at the workstation. Just because a function is applied at the time of display does not necessarily mean that it is applied at the workstation. In

fact, Table 7.2 lists the major functions of a PACS workstation. However, the table does not list application or selection of preprocessing functions. Thus, the Applicants respectfully submit that Huang does not teach, nor suggest, selecting preprocessing functions at a workstation, or applying preprocessing functions at the workstation, as recited in the claims of the present application.

The Applicants now turn to the rejection of claims 2-7, 10, 13-18, and 22-25 under 35 U.S.C. 103(a) as being unpatentable over Huang in view of Takeo. Huang relates to a PACS system as discussed above. Takeo, on the other hand, relates to an "image reproducing method and apparatus for reproducing a visible image with a first image reproducing means and reproducing a visible image with a second image reproducing means." Takeo at Column 1, lines 10-15. In Takeo, a previously generated visible image is reproduced by two image reproducing devices, such as CRT or LCD displays or laser printers. Takeo at Abstract, and Column 2, lines 47-54. The two image reproducing devices use different gradation characteristics in image reproduction. *Id.* at Column 2, lines 54-63.

Takeo does not relate to a PACS. In particular, Takeo does not teach, nor suggest, a picture archiving and communication system that connects to medical diagnostic imaging devices. Takeo simply does not teach, nor suggest, a PACS as recited in the claims of the present application, and/or as described in the specification of the present application.

A prima facie case of obviousness requires some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in

the art, to modify the reference or to combine reference teachings. Further, as stated in

MPEP 2143,

> The teaching or suggestion to make the claimed combination
> and the reasonable expectation of success must both be found
> in the prior art, not in the applicant's disclosure.

The MPEP at 2142 states the following:

> The tendency to resort to "hindsight" based upon applicant's
> disclosure is often difficult to avoid due to the very nature of
> the examination process. However, impermissible hindsight
> must be avoided and the legal conclusion must be reached on
> the basis of the facts gleaned from the prior art.

In *Ex parte Hiyamazi*, 10 USPQ2d 1393, 1394 (Bd. Pat. App. & Interf. 1988), the Board

of Patent Appeals and Interferences reversed a rejection based on a combination of

references, stating, in part:

> Under 35 USC § 103, where the Examiner has relied upon
> the teachings of several references, the test is whether or not
> the references viewed individually and collectively would
> have suggested the claimed invention to the person
> possessing ordinary skill in the art. Note *In re Kaslow*, 707
> F.2d 1366, 107 USPQ 1089 (Fed.Cir. 1983). It is to be
> noted, however, that citing references which merely
> indicate the isolated elements and/or features recited in the
> claims are known is not a sufficient basis for concluding
> that the combination of claimed references would have been
> obvious. That is to say, there should be something in the
> prior art or a convincing line of reasoning in the answer

suggesting the desirability of combining the claimed invention. Note *In re Deminski*, 796 F.2d 436, 230 USPQ 313 (Fed.Cir. 1986).

The Applicants respectfully submit that hindsight based on the Applicant's disclosure is being used to pick and choose isolated elements from Takeo to fill in the gaps of Huang. As discussed above, Huang relates to a PACS, but Takeo does not. Takeo simply does not teach, nor suggest, a PACS as recited in the claims of the present application. Takeo does not teach the use of a PACS display workstation. The displays in Takeo simply project the image (CRT or LCD) or print the image (laser printer). Thus, the Applicants respectfully submit that the isolated elements picked from Takeo cannot be combined with Huang, which relates to a different type of system, namely a PACS.

Even assuming that Huang could be combined with Takeo, the proposed combination still does not teach, nor suggest, all the limitations recited in the claims of the present application at least for the reasons discussed above with respect to Huang. Thus, the Applicants respectfully submit that the claims of the present application should be in condition for allowance.
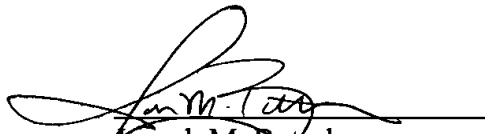
CONCLUSION

The Applicants respectfully submit that the claims of the present application are in condition for allowance and request reconsideration of the claim rejections. If the Examiner has any questions or the Applicants can be of any assistance, the Examiner is invited and encouraged to contact the Applicants.

The Commissioner is authorized to charge any necessary fees or credit any overpayment to the Deposit Account of GEMS-IT, Account No. 502401.

Respectfully submitted,

Date: _August 4, 2003_

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